

REMARKS

Applicants appreciate the Examiner's thorough review of the present application, and respectfully request reconsideration in light of the preceding amendments and the following remarks.

Claims 22-31, and 38-42 are pending in the application. Independent claims 22, 38 and 39 have been amended to overcome the Examiner's rejections. Claims 23-31 remain unchanged. Claims 40-42 have been added to provide Applicants with the scope of protection to which they are believed entitled. No new matter has been introduced through the foregoing amendments.

The *35 U.S.C. 112, first paragraph* rejection of claims 22-31 and 38-39 is believed overcome in view of the above amendments. The previous language of "substantially rigidly disposed" has been deleted. The independent claims now recite a laminate with no moving parts. This added feature finds solid support in the original specification, page 4, lines 4-15. It should be noted that the above amendments have been made solely for the purpose of expediting prosecution.

The *35 U.S.C. 102(e)* rejection of claims 22-31 and 38-39 as being anticipated by U.S. Patent No. 6,179,390 to *Guzorek* is noted.

Independent claims 22 and 38 have been amended to overcome the *35 U.S.C. 102(e)* rejection. More particularly, amended independent claim 22 now requires that the control unit be adapted to detect a change in braking force sensed and to transmit a braking force increase or decrease signal accordingly. The newly added feature finds at least implicit support in the application as filed, e.g., by the references made to the read information being relayed by the control unit to provide a predetermined air pressure value to the cylinder pressure.

The applied reference of *Guzorek* does not appear to fairly teach or disclose the added limitation. The operation of the *Guzorek* controller is described in column 12, lines 46 through 54.

The controller polls or samples the brake sensor and then subsequently calculates a braking pressure using an algorithm based on a zero measured reference resistance value. This calculated value is then used as an output signal from the controller to directly derive an electronic braking system.

Conversely, the operational mechanism employed by the controller of the invention of claim 22 is significantly different and discussed on page 6, lines 5 through 13 and on page 11, lines 8 through 23. The controller employed holds or samples the output of the pressure sensitive laminate to detect whether there has been a change in pressure on the brake pedal involved. The controller (described as the ECU) employs discrete control signals to transmit an “increase brake pressure” or “decrease brake pressure” signal to the appropriate components of the braking system provided.

The *Guzorek* controller reads a reference value when the brakes are not applied, then stores this for comparison with the brake pedal pressure when the brakes are applied. Thus, *Guzorek* requires a stored value to be used as a reference point for all brake signal outputs. In contrast, the controller of amended claim 22 detects brake pedal application and rapidly measures the electrical property of the sensor at the beginning of the brake application, then sends a signal proportional to the change in pressure from this point.

Thus, amended independent claim 22 is not anticipated by and is patentable over *Guzorek*. Claims 23-31 depend from claim 22, and are considered patentable at least for the reason advanced with respect to amended claim 22. Claims 23-31 are also patentable on their own merits since these claims recite other features of the invention neither disclosed, taught nor suggested by the applied art.

For example, as to claim 26, the language of the Office Action is unclear as to how *Guzorek* teaches or discloses the claimed control unit that **frequently polls** the load on the brake pedal. Clarification is respectfully requested.

As to claims 27 and 28, the language of the Office Action is unclear as to how *Guzorek*

teaches or discloses the claimed actuator mechanism that operates **independently of the braking force** sensed by the braking sensor. Clarification is respectfully requested.

As to claims 9 and 30, the language of the Office Action is unclear as to how *Guzorek* teaches or discloses the claimed **power disconnection means** for disconnecting power from at least some of the components of the towed vehicle. Clarification is respectfully requested.

As to claim 31, the language of the Office Action is unclear as to how *Guzorek* teaches or discloses the claimed **sway detection means**. Clarification is respectfully requested.

The method of amended independent claim 38 now additionally includes the steps of :

1. Detecting a change in pressure applied to the braking pedal, and
2. Issuing a control signal to increased braking pressure on the detection of the increased braking pressure on the brake pedal, or
3. Issuing a control signal to reduce braking pressure on detection of reduced pressure applied to the brake pedal.

The newly added features find at least implicit support in the application as filed and are not disclosed or suggested by *Guzorek* as discussed above with respect to claim 22. Amended claim 38 is thus patentable over *Guzorek*.

Amended independent claim 39 is clearly patentable over *Guzorek* because the reference fails to disclose, teach or suggest the claimed **piezoelectric** laminate. The *Guzorek* braking force sensor is described in detail in column 5, lines 53-67 of the patent to include force-sensing elements 60a which change electrical resistance as force is applied to the sensor. Apparently, the *Guzorek* sensing elements are not piezoelectric, since a piezoelectric material must generate charge or current or voltage when subjected to a mechanical force. Thus, *Guzorek* does not anticipate independent claim 39. Claim 39 is thus patentable over *Guzorek*.

For the same reason, new claims 40-42 are patentable over *Guzorek*. Claim 42 is also patentable on its own merits since this claim recites a feature of the invention neither disclosed, taught nor suggested by the applied art, i.e., a laminate that includes a number of piezoelectric elements which are **connected to each other in parallel**.

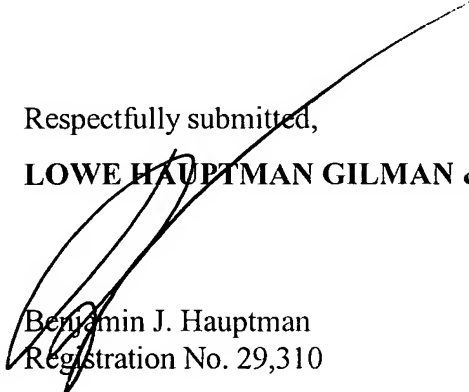
Each of the Examiner's rejections has been traversed/overcome. Accordingly, Applicants respectfully submit that all claims are now in condition for allowance. Early and favorable indication of allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN GILMAN & BERNER, LLP


Benjamin J. Hauptman
Registration No. 29,310

USPTO Customer No. 22429
1700 Diagonal Road, Suite 310
Alexandria, VA 22314
(703) 684-1111 BJH/KL/klb
(703) 518-5499 Facsimile
Date: February 12, 2004